

Please amend Claim 23 as follows:

23. (Amended) A portable electronic device as described in Claim 22 wherein said first and said second and said third display components are flat panel display screens.

*all
cancel*
Please amend Claim 24 as follows:

24. (Amended) A portable electronic device as described in Claim 23 wherein said flat panel display screens comprise electronic ink technology.

REMARKS

Claims remaining in the present application are numbered 1-26. Applicant respectfully asserts that no new matter has been added as a result of the Claim amendments presented herein.

Claim 24 has been amended to correct erroneous dependence.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page(s) is/are captioned "Version with markings to show changes made."

DRAWINGS

Examiner objects to Figure 18 because item numbers 1806 and 1807 are not shown outside of the boxes, as with the rest of item numbers on the Figure 18.

Applicant has discovered an analogous informality in Figure 17 regarding item number placement.

Accordingly, Applicant has corrected Figure 17 and Figure 18 to include consistent item number placement.

Corrected Figure 17 and corrected Figure 18 are submitted herewith.

SPECIFICATION

Examiner has reminded Applicant of the proper language and format for the abstract of the disclosure in that the abstract should be narrative form and generally limited to a single paragraph and within the range of 50 to 150 words. Applicant submits an amended abstract herein.

The disclosure is objected to because of the following informality. On page 5, line 12, the word electronic should be used instead of electric. Applicant submits an amended last paragraph on page 5 herein.

The disclosure is also objected to because of the following informality. On page 33, Line 16 item number should be 1702.

Applicant traverses. Examiner's objection references a step 1704 in a flowchart of a process 1700 of Figure 17 of the present application. Step 1702 describes a portable computer system 100 being powered up or turned on. Step 1703 describes a display control circuit determining the orientation of the front cover. If the front cover is closed,

shown as step 1705, display control circuit 200 activates the appropriate display panel, e.g., panel 500A. Alternatively, if the front cover is open, shown as step 1704, display control circuit 200 activates the appropriate display panel, e.g., 500B as well as display screen 600. Thus, step 1704 is correctly referenced and the need to change the item number is obviated.

CLAIM OBJECTIONS

Claim 6 is objected to because of the following informality. In element 6c, the words “at least” should be deleted. Claim 6 has been amended to correct the matter of formality.

Claim 23 is objected to because of the following informality. Claim 23, dependent upon Claim 22, is not showing all display components of the Claim 22. Examiner recommends amending Claim 23 in the following manner: “...first and second display component of the first and second flippable cover...”

Applicant traverses. Examiner’s recommendation does not show all display components either. Claim 23 has been amended to show all display components of the Claim 22.

35 U.S.C. § 112

Claims 7-18, 21, and amended Claim 24 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in

such a way as to enable one skilled in the art to which it pertains to make and/or use the invention.

Applicant traverses. Applicant points out that electronic ink is a well known display technology. Further, one skilled in the art would be readily able to incorporate information and data regarding electrical matrix addressing, tiling, and/or electrically addressable pixels, etc., into instructions for a display controller 200 and/or software applications to fully realize the functionality provided by electronic ink. Additionally, those skilled in the art are well versed in writing software programs that can provide a multitude of various software applications that can utilize the two-sided display functionality provided by electronic ink display technology including, but not limited to, a monthly calendar, as depicted in the instant application. Applicant points out that the monthly calendar software application, referenced by Examiner, was chosen to best portray an exemplary utilization of the functionality provided by a multi-sided display component, although alternative software applications could have been depicted, e.g., a word processing application, a database application, a graphics application, etc.

For the above reasons, Applicant asserts that Claims 7-18, 21, and amended Claim 24 are enabling under 35 U.S.C. § 112, first paragraph, and contain subject matter which was described in the specification in such a way as to enable one skilled in the art to which it pertains to make and/or use the invention.

35 U.S.C. § 102

Claims 1-6, 19-20, and 25 are rejected under 35 U.S.C. § 102(e) as being anticipated by Miyashita, U.S. Patent 6,327,482 B1. The Applicant has reviewed the cited material and for the following rationale asserts that Claims 1-5, amended Claim 6, Claims 19-20, and 25 distinguish over these references under 35 U.S.C. § 102 (e).

Claim 1 recites the following limitations:

A display apparatus for providing multi-sided viewing functionality to a portable computer system, said apparatus comprising:

- a) a front cover mechanically and electrically coupled to said portable computer system, said front cover comprising a hinge;
- b) a first display component coupled to said front cover;
- c) a second display component coupled to said portable computer system; and
- d) a display control circuit for enabling said first display component and said second display component, said display control circuit coupled to portable computer system, said display control circuit responsive to the orientation of said front cover.

Claim 2 recites the following additional limitations:

The display apparatus of Claim 1 wherein said first display component and said second display component comprise a front display portion and a rear display portion.

The claimed embodiment, as recited in Claim 1 and Claim 2, recites a display apparatus with multi-sided viewing to a portable computer system. Claim 1 recites a front cover coupled to a portable computer system that has a first display component coupled therewith. A second display component is coupled to the portable computer system, as claimed. A display control circuit is coupled to the portable computer system for enabling the first and second display component. Claim 2 further provides that the

first and second display component have a front display portion and a rear display portion.

Therefore, as claimed, a display component is implemented as the first and second display components. Further, the display component is a single display component having a front display portion and a rear display portion. Accordingly, each display component can display data on either the front display portion or the rear display portion thereof, as substantiated in the instant application.

Miyashita, in contrast to the claimed embodiments, discloses two separate and individually operable screens. Miyashita, as understood by Applicant, suggests a mobile radio apparatus, e.g., a cellular phone, usually having a main display described having a display capacity of approximately four lines and twenty characters (Column 1, Lines 19-20). Miyashita further suggests that the mobile radio apparatus having a main display (7) with a screen (7a) implemented by an LCD (Column 2, Lines 20-21). Miyashita, as understood by Applicant, further suggests an auxiliary display (9) having, in one implementation, a screen 9a and a screen 9c each of which are implemented by an LCD wherein the LCD for screen 9a is mounted on the front of display 9 and the LCD for display 9C is mounted on the rear of display 9 (Column 2, Lines 55-60). As understood by Applicant, Miyashita therefore discloses two separate and individually operative screens are utilized to provide the additional display functionality.

In contrast, the claimed embodiments, as recited in Claim 1 and Claim 2, require a display component having a front display portion and a rear display portion. Thus, the claimed embodiments are directed to one display device having two display sides.

As understood by Applicant, Miyashita does not describe, teach, or suggest a display device having two display sides, nor does Miyashita suggest, teach, or describe a way to implement the display apparatus as claimed.

Claim 3 recites the following additional limitations:

The display apparatus of Claim 1 wherein said hinging mechanism of said front cover is adapted to open and close said front cover, such that when said front cover is open, said front cover is in an open position, and when said front cover is closed, said front cover is in a default position.

Claim 4 recites the following additional limitations:

The display apparatus of Claim 3 wherein said display control circuit, responsive to said default position of said front cover, activates said front display portion of said first display component of said front cover, to enable viewing functionality of said front display portion of said first display component.

Claim 5 recites the following additional limitations:

The display apparatus of Claim 3 wherein said display control circuit, responsive to said open position of said front cover, activates said rear display portion of said first display component of said front cover and said front display portion of said second display component of said palmtop computer, to enable viewing functionality of said rear display portion of said first display component and said front display portion of said second display component.

These embodiments recite a hinged front cover and a display control circuit which, upon rotation of the front cover from a default position enabling viewing functionality of

the front portion of the first display component, activates the rear display portion of the first display component and the front display portion of the second display component. This enables the display functionality of the rear portion of the first display component and the front display portion of the second display, as claimed.

Miyashita, as described by Examiner, and as understood by Applicant, suggests that upon rotation of auxiliary display (9), a controller (16) deactivates (turns off) a front screen (9c) and activates (turns on) rear screen (9a).

However, these claimed embodiments recite a display component having a front viewing portion and a rear viewing portion within the same display component, as claimed in Claim 2. The claimed embodiment further requires that upon rotation of the front cover to an open position, a display controller activates the rear display component.

By deactivating the front screen (9c), as described by Examiner and suggested by Miyashita, if applied to Applicant's invention, Applicant's entire first display component would be rendered inoperable. Importantly, if the front display portion of Applicant's first display component is deactivated, the rear display portion is also deactivated.

Accordingly, as understood by Applicant, Miyashita directly teaches away from the above claimed embodiments by describing deactivation of the front display screen,

which would render inoperable Applicant's display component coupled with the front cover. Therefore, the cited art does not teach or suggest the claimed embodiments of Claims 3-5 for these additional reasons.

Analogous reasoning applies to amended Claim 6, and Claims 19, 20, and 25. For the above rationale, Claims 1-5, amended Claim 6, Claims 19-20, and 25 are not anticipated under 35 U.S.C. § 102(e), in view of Miyashita.

35 U.S.C. § 103

Claims 22-23 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyashita, U.S. Patent 6,327,482 B1. The Applicant has reviewed the cited art and for the following rationale asserts that Claim 22, amended Claim 23, and Claim 26 distinguish over these references under 35 U.S.C. § 103 (a).

Claim 22 recites the following limitations:

A portable electronic device comprising:
a housing supporting a first display component;
a first flippable cover hinged to said housing and having an open state and a closed state, said first flippable cover comprising a second display component having a front display panel and a back display panel;
a second flippable cover hinged to said housing opposite to said first flippable cover and having an open state and a closed state, said second flippable cover comprising a third display component having a front display panel and a back display panel; wherein
said front display panel of said second cover is active to display first images provided said first and second covers are closed; and wherein further,
upon said second cover opening, said front display panel of said second cover becomes deactivated, said back display panel of said second cover becomes activated and

displays said first images and said first display panel of said first cover becomes activated for the display of second images; and wherein further,

upon said first cover opening while said second cover is open, said front display panel of said first cover becomes deactivated, said back display panel of said first cover becomes activated and displays said second images and said first display component becomes activated for the display of third images.

Claim 23 recites the following additional limitations:

A portable electronic device as described in Claim 22 wherein said first and said second display components are flat panel display screens.

These claimed embodiments recite a plurality of display apparatus, each with multi-sided viewing, to a portable computer system. Claim 22 is drawn to a portable electronic device having a housing supporting a first display component. A first flippable cover is hingeably coupled to the housing, and which includes a second display component. A second flippable cover is also hingeably coupled with the housing, and which includes a third display component, as claimed. Both the first and second flippable covers have an open and a closed state. Each of the display components has a front display panel and a rear display panel and is enabled to display images from either panel, depending upon orientation and selection.

The front display panel of the second cover displays images when the first and second covers are closed. When the second cover is opened, the amount of power applied to the front display panel is reduced and an increased amount of power is applied to the back display panel, thereby attracting the electrostatically encapsulated ink droplets to the back display panel of the third display component. Additionally, the front display

panel of the first display component becomes activated and displays images. When the first flippable cover is opened, power applied to the front display panel is reduced and an increased amount of power is applied to the back display panel of the second display component, thereby attracting thereby attracting the electrostatically encapsulated ink droplets to the back display panel of the second display component. Additionally, the front display panel of the first display component is activated for displaying images.

The display components are flat panel display screens which comprise electronic ink technology, as claimed in amended Claim 24.

Therefore, as claimed, a display component is implemented as the first and second and third display components. Further, the display component is a single display component having a front display portion and a rear display portion. This means that each display component can display data on either the front display portion or the rear display portion thereof, as substantiated in the instant application. Additionally, as substantiated in the present application, the display component implemented in the housing, the first flippable cover and the second flippable cover is one contiguous display component, as shown in Applicant's Figure 12.

In the context of the present invention, deactivation does not refer to turning off a display component, as described by Examiner regarding Miyashita. Rather, in the instant application, the term deactivation refers to the process of reducing power applied to one

side of the display component (front or back) and increasing the power applied to the opposing side, thus attracting the electrostatically encapsulated ink droplets to the side of the display component having more power applied thereto.

Miyashita, as described by Examiner, and as understood by Applicant, deactivates (turns off) a first display component 9c, implemented by an LCD, and activates (turns on) a second display component 9a, also implemented by an LCD.

The rejection further describes the obviousness of adding another cover with a front display component and a rear display component, both implemented by an additional LCDs, which if implemented in Miyashita, would require five separate display devices to provide some of the functionality as provided by Applicant's invention.

In contrast to the rejection, Miyashita's disclosure is not adaptable to, nor does it suggest the claimed embodiment for the following rationale. By deactivating the front screen (9c), as described by Examiner and suggested by Miyashita, if applied to Applicant's invention, Applicant's entire display component would be rendered inoperable. This is because if the front display portion of Applicant's display component is deactivated, the rear display portion is also deactivated.

Accordingly, as understood by Applicant, Miyashita directly teaches away from the claimed embodiment by describing deactivation of the front display screen because such teaching would render inoperable Applicant's display component.

Analogous rationale applies to Claim 26. For the above rationale, Claim 22, amended Claim 23, and Claim 26 are patentable over the cited reference under 35 U.S.C. § 103(a).

CONCLUSION

For the above rationale, Applicant respectfully submits that the present application satisfies 35 U.S.C. § 112. As such, Applicant respectfully requests that the rejections of Claims 7-18, 21, and amended Claim 24 under 35 U.S.C. § 112, first paragraph, be withdrawn.

Further, for the above rationale, Applicant respectfully submits that the present claims are not anticipated by Miyashita, under 35 U.S.C. § 102(e). As such, Applicant respectfully requests that the rejections of Claims 1-5, amended Claim 6, Claims 19, 20, and 25 under 35 U.S.C. § 102(e) be withdrawn and Claims 1-5, amended Claim 6, Claims 19, 20, and 25 be allowed.

Additionally, for the above rationale, Applicant respectfully submits that the claims are patentable over Miyashita, under 35 U.S.C. § 103 (a). As such, Applicant respectfully requests that the rejections of Claim 22, amended Claim 23, and Claim 26, under 35 U.S.C. § 103(a) be withdrawn and Claim 22, amended Claim 23, and Claim 26 be allowed.

Please charge any additional fees or apply any credits to our PTO deposit account No. 23-0085.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claim 6 has been amended as follows:

6. (Amended) A two-sided display apparatus for providing multi-sided viewing for a [portable] palmtop computer system, said apparatus comprising:

a) a front cover mechanically and electrically coupled to said palmtop computer system, said front cover comprising a hinge for providing opening and closing functionality to said front cover, wherein a closed front cover is a default position;

b) a first display component coupled with said front cover, said first display component comprising a front display panel and a rear display panel;

c) a [, at least,] second display component coupled to said palmtop computer system, said second display component comprising a front display panel and a rear display panel; and

d) a display control circuit coupled to said palmtop computer system, adapted to activate said first display component and said second display component, said display control circuit responsive to the orientation of said front cover.

Claim 23 has been amended as follows:

23. (Amended) A portable electronic device as described in Claim 22 wherein said first and said second and said third display components are flat panel display screens.

Claim 24 has been amended as follows:

24. (Amended) A portable electronic device as described in Claim [22] 23 wherein said flat panel display screens comprise electronic ink technology.

In the Specification:

The Abstract, commencing on page 44, has been replaced with the following:

A display apparatus for providing multi-sided viewing functionality to a portable computer system. In one embodiment, the display apparatus is comprised of a front cover which is electrically and mechanically coupled to the portable computer. A first display component is disposed on the front cover and includes a front display panel and a rear display panel. A second display component is coupled to the portable computer system. A display control circuit, coupled to the portable computer system, is adapted to activate and to deactivate display panels in direct response to the orientation of the front cover, and when portable computer system is so configured, to the orientation of a second cover, interposed between the front cover and the portable computer system. Electronic ink technology is used in the formation of the two sided display components.

The paragraph on page 5, commencing on line 12 has been amended as follows:

In one embodiment, the present invention is comprised of a front cover. The front cover is electrically and mechanically coupled to the palmtop computer. In the present embodiment, a first display component is coupled to the front cover. The first display

component is further comprising a front display panel and a rear display panel. In the present embodiment, a second display component is coupled to the portable computer system. In the present embodiment, a third display component may be present and coupled to the portable computer system. Additionally, in the present embodiment, the technology used in the display component is [electric] electronic ink display. Further, in the present embodiment, the display component is flexible. Furthermore, in the present invention, a display control circuit is coupled to the portable computer system. The display control circuit is adapted to activate the first display component and the second display component. The display control circuit is further adapted to provide that activation in direct response to the orientation of the front cover.